

The RockCollector

Vol. 105, Issue 05 **Newsletter for the Rochester Lapidary Society, May, 2005** Rochester, NY

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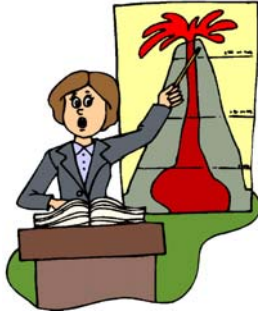
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President's Reflections

Judy Brown did a very nice presentation on freestyle wire wrapping at our last meeting. We had a good crowd and everyone enjoyed it.

Our judging competition will be at the May 5th meeting so make sure you bring anything you made this year. We'd also like to display these in our club show cases for the Gem Show in October.

Our May meeting is the last meeting at the School for the Deaf until the fall. Please come and see what your fellow club members have been working on. Prizes and ribbons will be awarded for 3 different categories and for novice, amateur and professional.

The nominating committee has presented its slate for next years officers. Please review the nominations and if you're interested in adding your name or adding someone else's name please call Kim Pandina at 747-8494.

President - Hollis Heinzerling

Vice President - Paul Dudley

Secretary - Toni Hill

Treasurer - Paul Javery

Board of Directors - Sandy Schwab, Basil Babey, Gerri Rzasa, and Kim Pandina.

Our picnic is in June at Roberts Park so please look at the announcement and come join us if you can. We usually have a great time and get to socialize with each other a little bit more than we can at the club meeting.

The May 5th meeting is at Forrester Hall at 7:30pm. Board Meeting at 6:45pm.

News on the Annual Club Competition

Rather than a few donated prizes, we discussed giving club prizes. Paul Dudley suggested we could do small cash prizes as well as ribbons. As part of the modifications we want to decrease the number of categories. The main areas of lapidary art: cabochon, faceted stone and carving would still be represented but related arts would be combined into a finished projects category. Examples of finished projects include silver jewelry, wire wraps, beads, and boxes. Individuals should still designate their level of expertise as novice (less than 2 years experience in the particular category) or advanced. Some items could fit in more than one category, and for each piece, the contestant should select only a single category. For example, a nicely finished cab mounted in a setting could be included as a cab or as finished jewelry, but not both. The objective is to reduce the number of categories with only one individual represented, and focus on lapidary skills. Members are encouraged to bring their favorite created items for the year! Even beginners, if they select the right stone and take their time can turn out some very attractive work, so no one should be shy about entering.

Hollis

Website worth Visiting:

For info on the Himalaya Tourmaline Mine and Spectrum Sunstone Mine and material, including facet rough, for sale: <http://www.highdesertgemsandminerals.com>.

Sandy Schwab





Upcoming Shows/Calendar

- May 14 Penfield Quarry Dig. Be there before 7AM for best seating!!! See article for details
- May 14 Final Carving Workshop before the summer sessions. See article for details.
- May 14 Studio 34 Jewelry Arts Learning Center Spring Open House and Sale, 1PM to 4PM. See article for more information.
- May 17 Fred Pough is the guest speaker at the RAS Mineral Section's meeting. They have been kind enough to invite us. See article for details.
- June 12 Annual Club Picnic with the Mineral Section of the RAS as our guests. 12PM until... See article for details.
- July 9-10 Syracuse annual show - see show flyer in this issue for details.
- August 16-21 AFMS/MWF Convention and show - St. Louis County, Missouri. Show theme is "Lewis & Clark adventures."
- October 22-23 Our show!!! Come One, Come All.

Penfield Quarry Dig!!!

from Don Lapham

The Dolomite Products Quarry, Penfield, NY is having an Open House Dig Saturday, May 14, 2005 from 7:00 AM to Noon

The May 14, 2005 dig at the Dolomite Products Quarry at Penfield, NY has been confirmed.

Lockport, NY has been confirmed for Sat. Nov. 6, 2004.

Suggested to arrive no later than 7:00 AM, as we will enter at 7:30 AM, late arrivals are OK. The quarry will ask us to leave at Noon.

Hard hat, steel toed shoes and safety glasses are mandatory.

The Quarry is located on Whalen Dr. in Penfield, NY south of the Browncroft/Atlantic Ave (rte. 286) intersection. The Quarry entrance is on the left, just past the golf course on the right

Expect to find Minerals.

RAS Mineral Section Meeting Tuesday May 17, 2005.

7:30 to 9:30 PM
at the Brighton Town Hall
2300 Elmwood Ave.
in the Community Room.

The Speaker will be
Dr. Frederick Pough,
An Autobiography.

Refreshments,

Lapidary Members welcome.

For information,
contact Charles Hiler at 924-7496.
web site www.rasny.org

Springtime Greetings!

Our *Spring Open House and Sale* is Saturday, May 14 from 1 PM to 4 PM. If you are interested in selling your work, contact me no later than April 30. There is a limit of 20 artists.

Rings N Things is a wholesale company that comes to Rochester once a year. This year, it's in June. It's a terrific sale. Everything is labeled and prices are excellent.....you can stock up for a year at just this one show.

You can go on line to their website to check them out. You either have to be on their mailing list, have a tax resale number, or an invitation to get into the show. If you'd like an invitation, please send me your address or stop by the studio for one.

Our web site is up!!! Please check us out at studio34jewelryartslearningcenter.com

You will find our schedule and pictures of class projects. New classes are being added.

If you have a web site and would like to consider having a link to us and vice versa, please let me know. Also, if you want to recommend some good jewelry and glass bead sites to include as links on ours, send those, too.

Thanks!
Marilynne
Studio 34 Jewelry Arts Learning Center

Above information courtesy Don Specht, thanks Don!!!

Saturday Carving Schedule 2004-2005

One last meeting before the summer schedule:

10 A.M. to 3 P.M.

May 14

Summer schedule to be announced

Marie Romach
Richard Zollweg
Karl Sperber

Rochester Lapidary Society Board Meeting April 7, 2005

The Board meeting was called to order at 6:55 P.M. by Vice-president Basil Babey.

Attendance: Karl and Dan Sperber, Paul Dudley, Basil Babey, Sandy Schwab, Hollis Heinzerling, Larry Schulman, James Redden, Charlene and Bill Freundlich, Kim Pandina and Toni and Dexter Hill.

Membership: Larry Schulman reported that we now have 104 adult members and 12 children.

Treasurer's Report: Treasurer Paul Dudley reported that there was income of \$212.90 and expenses of \$125.00.

Nominating Committee: Kim Pandina of the nominating committee reported that the slate of officers for the coming year are: Pres. Hollis Heinzerling, Vice- Pres., Paul Dudley, Treasurer, Paul Javery and Bill Freundlich, and Secretary, Toni Hill. The committee is still open for nominations.

New Business: The possibility of having a club table at the Gem Show in October was brought up for discussion. There were a great many ideas presented and it was decided to bring this idea up before the general meeting for further discussion.

The library has been organized and the resources therein will be listed on the Society website.

The upcoming symposium was discussed. See the Newsletter for particulars

Categories for the club competition, to be held at the May meeting, were listed as follows; Cabbing, Faceting and Finished Jewelry, with sub-categories of novice, intermediate and professional in each group. Prizes will be awarded. All members are encouraged to bring a project and enter it.

Old Business: There was no Old Business.

There being no further business, Paul Dudley moved to adjourn the meeting. Hollis seconded the motion. The meeting was adjourned at 7:09 P.M.

Rochester Lapidary Society General Meeting April 4, 2005

Vice President, Basil Babey called the meeting to order at 7:38 P.M.

Attendance: Karl and Dan Sperber, Paul Dudley, Basil Babey, Sandy Schwab, Hollis Heinzerling, Larry Schulman, James Redden, Charlene and Bill Freundlich, Kim Pandina, Toni and Dexter Hill, G. Westbrook Taggart, Donna Hayes Larry Cooley, Judy Brown, Ellen Dietterick, Don Boone, Deb Simonson, Stacey Faragher, Adele Shepard and Dan, Cindy, Alicia and Lauren Imel.

Treasurer's Report: See above.

Membership Report: See Above.

Nominating Committee: The slate of candidates for club officers for the coming year was presented as stated above. Bill Freundlich asked that his name be removed from the slate as being a candidate for Treasurer.

Old Business: No Old Business.

New Business: Jim Redden brought up the fact that the signs for the Gem Show were looking bad and needed to be replaced with new ones. The membership agreed. The Show Committee will look into it.

Jim also brought up the fact that safety glasses need to be worn at all times in the workshop. Please comply when working in the shop. We have glasses for all.

Parking at the Wednesday workshop has been sloppy. Please do not use the Handicap parking spots unless you have a handicap tag. Some people really need those spots.

The club competition is coming up in May. Please enter a project.

The Gem Show tables were discussed. It was decided that there needs to be more clarification of the rules for entering the show and having a table. We need to discuss balance within the dealers and vendors at the show.

The upcoming Symposium was discussed. All were encouraged to come. Thursday is free to club members if you show your membership card.

The library list of materials is finished and will be up on the website.

The annual picnic will be held in June at Roberts cabin, the same place we held it last year. More details to follow.

There being no further business G.W. Taggart moved to adjourn the meeting. Dan Imel seconded the motion. The meeting was adjourned at 8:25 P.M.

Basil introduced the speaker for the evening, Judy Brown, speaking on wire wrapping.



Hitch up Your Buggy and Come to the Annual Picnic and Silent Auction

by Bill Freundlich

Our annual spring get together will be held on **Sunday June 12th from Noon until -----.**

It will again be at the Henrietta Town Park in the Roberts Cabin. The park is on Calkins Road and is the first left turn (going west) after the fairgrounds entrance. Cross over the bridge and turn right to Roberts Cabin.

Please bring a dish to pass.

The silent auction is a good opportunity to share some of your excess "stuff" with other club members. There can be a minimum bid and the auction increments are \$1.00 amounts. The club receives 20% of the final price and you get 80%.

The Lapidary club will provide meat, drinks, paper and plastic ware, and condiments. As usual I am sure that the "dish to pass" provided by the members will be outstanding as it has always been. The Mineral Section has been invited, as has been the custom in years past. It is a time when both clubs can share camaraderie.

As of this date there is no demonstration planned. However, anyone who wishes to volunteer, please let me know.

Gem Show

The Gem and Mineral show will be held in October and we are looking for members of our groups to work on the committee. Anyone interested in joining this important committee, please e-mail me at namluhcs@aol.com.

Larry Schulman, Show Chairman

Lapidary: What It is and isn't

by Paul Dudley

According to John Sinkankas in his well-known book, Gem Cutting, A Lapidary's Manual, the word lapidary is derived from the Latin word lapis, which means stone. A lapidary is the name of an artisan who carves, shapes, or engraves stones or gems. For thousands of years lapidaries practiced their craft in secret to create wonderful works of art and stones for use in jewelry. It has only been rather recently that the techniques have been made widely known, and the development of electrically powered equipment has allowed hobbyists to become lapidaries.

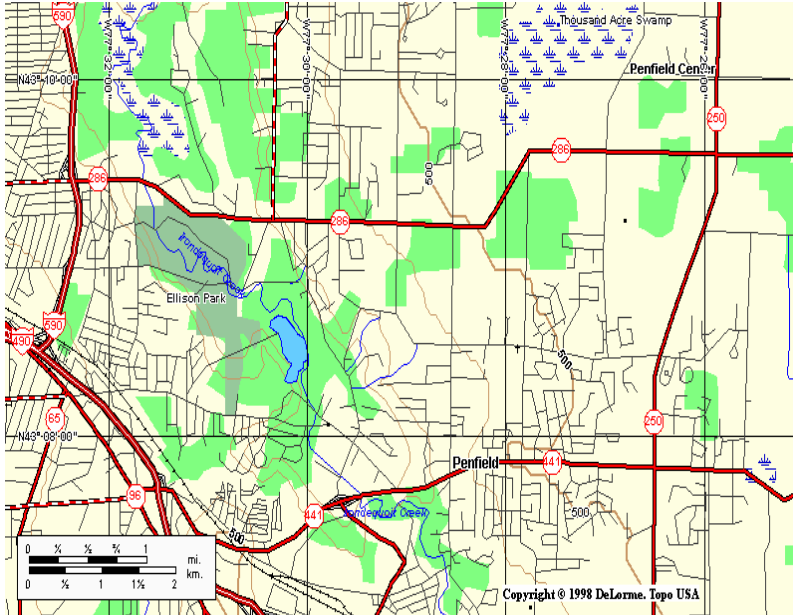
The lapidary hobby boomed after the World War II as commercial manufacturers made rock-cutting and polishing equipment widely available, and magazines began publishing plans for homemade equipment. One such publication, Lapidary Journal, became the most widely read publication for American lapidaries both amateur and professional.

Because much of the output of lapidaries is precious and semi-precious stones, many perhaps most lapidaries became interested in jewelry as a means of displaying their cabochons and cut stones. As time went on, Lapidary Journal began to devote increasingly more pages to jewelry, (it now even includes "Jewelry Arts" as part of its title) and in recent years to other crafts such as glass and plastic beads, and other materials that are not even stone! To the management of Lapidary Journal this change in focus was an effective means of increasing the magazine's circulation, but it has caused confusion as to what lapidary is all about. For awhile, there was almost nothing in the magazine that actually pertained to lapidary. Recently a few more lapidary-related articles seem to be appearing, but the magazine is still largely devoted to other crafts such as jewelry making without the use of stones, non-stone beads, moldable plastics, and so forth.

Many of you are probably now saying to yourself "So What?" Well, the reason that I am writing this for *The RockCollector* is because I am a candidate for next year's Vice President of the Rochester Lapidary Society. The primary duty of the Vice President is to plan the programs for the club's monthly meeting. Should I be elected, I will strive to include only program topics that in some way pertain to lapidary. This is not because I do not recognize the legitimacy of other crafts, but because I feel that a lapidary organization should focus on activities that relate to stone. Should any individuals in the club feel that lapidary is not the focus that they wish to see for club programs, I suggest that they oppose me in our upcoming election. After all, choice is what elections are all about

Directions for Penfield Quarry Dig

Dolomite Products, Penfield Quarry – NY Thruway to 490 East towards Rochester, avoid route 390, take 490 East to 590 North to exit for Browncroft Rd (route 286) Browncroft turns into Atlantic Ave. Watch for traffic light intersection with Whalen Rd. at grove of pine trees. Make Right onto Whalen. Pass golf course on Right, quarry entrance is on left. Enter open gate, bear right to parking area, and sign in at the garage/office.



Great Summertime Event! SYRACUSE JEWELRY & MINERAL SHOW 2005

NEW! Cargill Exposition Center
State Fairgrounds, Syracuse (Exit 7 off I-690)
OPEN TO THE PUBLIC
Saturday, July 9: 10 AM to 6PM
Sunday, July 10: 10 AM to 4PM

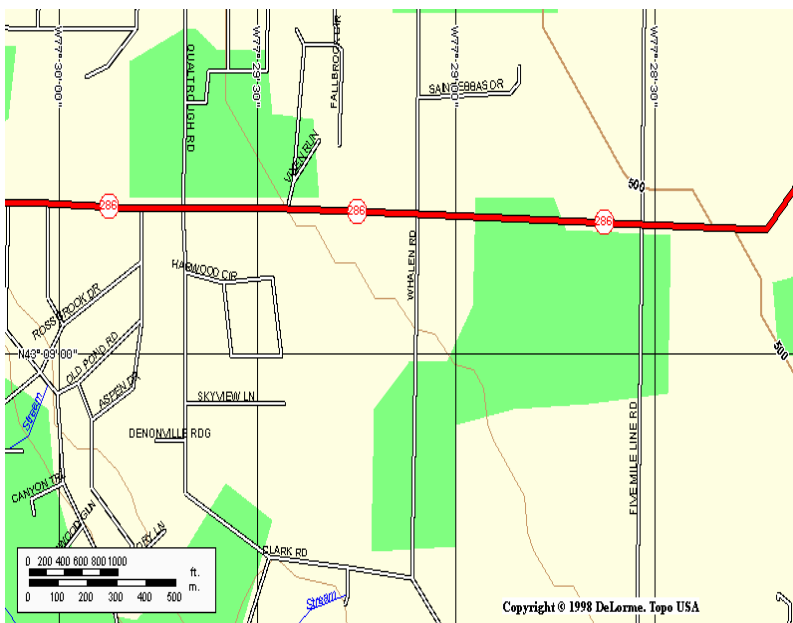
- ◆ Beads, Gem Trees, Silver & Gold galore
- ◆ Huge Wholesale section for buyers with tax #
- ◆ 45 Retail Dealers matched to what you tell us you want
- ◆ Crystals, Minerals, Fossils, Gem Stones, Books, Videos
- ◆ Fluorescent mineral show 3 times daily
- ◆ See or have Jewelry made during the show
- ◆ Everybody has a chance at Super Prize Drawings
- ◆ Lots of fun things for the kids
- ◆ Free Parking, Food available, wheelchair accessible
- ◆ Your stamped hand gets you in second day Free

Admission Donation: \$5 for adults, Kids under 12 free
\$1 off with flyer or ad (2 persons max.)

Sponsor for 39 years

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Guatemala's New Blue Jade

Miners unearthed a large deposit of deep blue jade in the Motagua Valley of Guatemala, home to the historic jade mines of the ancient Mayan Indians. The jade deposit has yielded mostly green stones and some green-blue stones. This mine now produces the first blue jade known in the world. Ventana Mining owns the deposit that now produces blue jade that compares in hue to that of blue sapphire. The jade is translucent to opaque, and it is thought that titanium gives the jade its blue color.

Source: *Colored Stone* January/February, 2004 via The New Mexico Facetor, January/February, 2004



Photo of color graduation in corundum¹⁴

What is the Procedure by Which Synthetic Rubies Are Produced?

Dan Imel

Ruby is the name for the mineral corundum when it is red. All other colors, including the pink, are called sapphire but are still the corundum variety of aluminum oxide. The picture of the bracelet above is a prime example of corundum with different colorants. Ruby is a mixture of Aluminum Oxide, Al_2O_3 , and chromium (III) oxide, Cr_2O_3 . In order to be ruby, chromium must be present in approximately a 6% or slightly greater concentration. 5% or less produces pink, considered sapphire. Various oxides cause the other colors sapphire is known for; the blue many envision of when they think of the stereotypical sapphire is caused by a combination of titanium oxide, TiO_2 , and ferrous iron oxide, Fe_2O_3 . Yellow is caused by ferrous iron oxide by itself. Green is a combination of ferric iron oxide, Fe_3O_4 , and titanium oxide. The combination of chromium oxide, ferrous iron oxide and titanium oxide produce purple.⁴ Because the public demand is for red and blue corundum, synthetics of other colors are fairly uncommon except as imitations of other gemstones, such as Alexandrite. Sapphire and ruby can be dichroic. This is the ability to display two colors, depending on the direction a stone is viewed at or the lighting conditions it is viewed under, usually fluorescent light versus incandescent or natural light. Artificial alexandrite, well noted for color change like its natural counterpart, is frequently synthetic sapphire though synthetic alexandrite does exist.

Synthetic ruby is, in every sense, real ruby. This distinguishes it from "artificial" or simulated ruby that can be almost anything red. Plastic and glass have both been sold as artificial ruby. Ruby has a hardness of 9 on the Moh's scale, making it one of the hardest natural substances known. Diamond is the hardest known natural substance with a hardness of 10 and man-made diamond, when composed of nearly pure carbon 13, has a hardness of 10.5, earning it the distinction of being the hardest substance known. It should be noted, however, that the Moh's scale is a chart of relative hardness and is not a linear scale. On an absolute hardness scale, ruby is 400 and diamond is 1600. Quartz is the base hardness on the standard absolute hardness scale, with a hardness of 100. You can see that ruby is one fourth the hardness of diamond, not 90% as the Moh's scale would suggest.

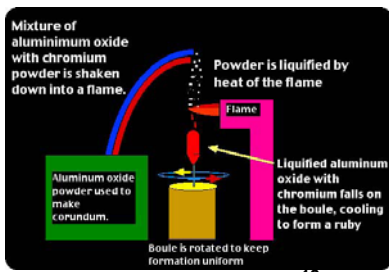
Due to its hardness and resistance to wear, approximately 85% of all synthetic corundum, ruby or sapphire, is used for commercial purposes. Everything from the bearing points in fine mechanical watches to the bearing points on some pens to thread guides on textile looms are commonly synthetic corundum. Have you seen ads for 17 jewel movements for watches? Any application where hardness alone is of value is a prime candidate. Finer watch crystals such as used by Rolex are usually made from colorless corundum due to its resistance to scratching. The windows on the scanners at your local grocer may be corundum and corundum laser

rods have frequently been made. It should be noted, that hardness is not the same as toughness. Sapphire isn't used in situations where shock is an issue. A sapphire can scratch jade, which has a Moh's hardness between 6.5 and 7, but jade can turn sapphire into dust because jade is much tougher than sapphire. Jade is formed from compressed intertwined fibers and the interlocking of the fibers makes jade especially tough. Sapphire's crystalline structure doesn't provide this toughness.

Timeline¹⁵

Year created	Year Commercially Available	Description
1877	1885	French chemist Edmund Fremy grows the first gem quality ruby in a crucible. This marks the first synthetic gemstone made. This is a transparent, non-asteriated material.
1902	1905	French chemist Auguste Victor Louis Verneuil produces synthetic rubies in a furnace. This is the start of what is basically the same process used today for much of the synthetic ruby. The process is called flame-fusion. This is also a transparent, non-asteriated material. It is primarily noted for its relatively low cost.
1917	?	Czochralski pull method – used for most silicon wafers today.
1947	1947	First star (asteriated) ruby created in lab and marketed by the Linde Air Products Company, a division of Union Carbide. The asterism is caused by inclusions of rutile. Linde was closed in the 1970's and most current synthetic star rubies are produced in Southeast Asia. This is based on the Verneuil method. ⁴
?	1957	Bell Laboratories announces the production of synthetic ruby through a hydrothermal process.
1958	1958	Flux process – originally created by Carol F. Chatham (Chatham grew the first flux emeralds in 1938, and the first flux sapphires in 1975) ⁹
1960	1960	Kashan – produced by Truehart Brown of Ardon, Associates – flux fusion. ¹³
1964	1964	Gilson – synthetic hydrothermal – produced in France by Pierre Gilson

Many attempts were made to create synthetic gemstones in the past. The first documented attempt was in 1819 by Dr. E.D. Clarke. Using the recently invented blowpipe, he melted two rubies into one bead. Unfortunately, he believed he'd created a ruby colored glass. Several other attempts were made over the years with varying success.¹



Verneuil Process¹²

The first synthetic of gem quality ever produced was by French chemist Edmund Fremy in 1877. This was achieved by melting aluminum oxide in a crucible. Several small faceted stones were cut from the material.

Commercial production using Fremy's method was started in 1885.

The basic concepts Fremy used were to provide the basis twenty five years later in 1902 for another French chemist, August Victor Louis Verneuil, to develop what would become known as the **Verneuil process**, or flame fusion process. Fremy had worked with Verneuil to create ruby by red-heat reaction. Verneuil continued his experiments and eventually was able to develop the process that would bear his name. This is one of the primary methods still used better than a hundred years later. In the Verneuil process, a mixture of powdered aluminum oxide and chromium oxide is sprinkled downward through a vertical flame to melt and gradually build up below the flame on a growing boule. In 1980, worldwide capacity via the Verneuil process was approximately 440,000 pounds per year. Gemstones from this method can be detected because it leaves tell-tail curved striations within the stone that can be viewed with the proper equipment.

It would be the Verneuil process that would be used by the Linde Air Products Division of Union Carbide to produce the well-known Linde Star corundums starting in 1947. Titanium oxide is added in excessive amounts

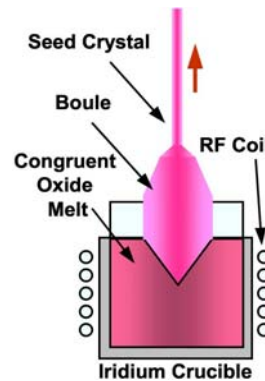


Sketch of star sapphire¹¹

during the creation of the boules. The boules are kept at sufficiently high temperatures for an extended period of time to allow rutile crystals to grow from the titanium oxide, thus creating fine needles that reflect light, creating the star effect. Union Carbide ceased all production of the Linde star rubies and sapphires and all other synthetics they produced commercially by 1974 due to cheaper overseas competition. They are still produced in other countries under varying brand names. The quality of this synthetic star material is far better than most of the natural material available so methods of detection are rarely necessary, even though Linde usually stamped the back of their gemstones with an L.

One of the key points of synthetic gemstone material creation is the desire to produce better and better quality. This is both for commercial applications requiring higher quality and for the gemstone trade. For gemstones, it's the desire to have an undetectable synthetic. Historically, almost every "new and improved" gemstone has had a period of

time during which it is nearly impossible for even experienced gemologists to detect it as synthetic. To date, eventually methods have been developed that allow a gemologist to again determine the difference between natural and synthetic. We've reached a point that some of the new material can only be detected by the use of very specialized equipment. An example of this would be moissanite as a diamond substitute. A special instrument is required to detect the difference. De Beers has spent a great deal of money researching detection methods for diamonds to protect their interests. The quality continues to get better and, eventually, it may no longer be possible to detect many synthetics. This is the reason De Beers has started engraving the girdle of diamonds (the edge between the top and bottom of a gemstone) with a serial number as authentication.

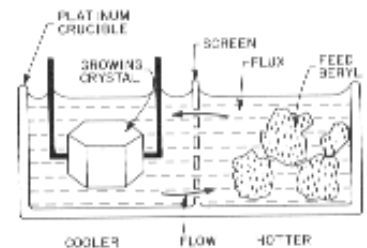


Pull Method¹⁰

crystals from molten material in a crucible. The material in the crucible is heated to melting then slightly cooled to the point that it is supersaturated. At this point, a rod with a crystal of the desired material, in our case, ruby, is inserted into the molten mass. This crystal is referred to as a seed crystal and crystallization around the seed quickly starts as the rod is extracted. Over a period of weeks, the rod is very slowly pulled from the molten material in the crucible by a series of gears and motors, resulting in crystal formation. It's also very slowly rotated during extraction to help provide uniformity in the growth. This method will produce exceptionally large single crystals, frequently a couple of feet long and weighing better than 10 kilograms. The crystal takes on the diameter of the crucible. This is currently the primary method of producing silicon crystals for silicon wafers but was used far before that for synthetic ruby and sapphire production.

A small percentage of the gemstone market is the **flux method**, as used by the Chatham Corporation, Gilson and others. In this method,

rough material, frequently low grade natural material, is placed in one end of a growth chamber filled with a solvent flux. A seed crystal is placed at the other end of the chamber and the original material is heated to the melting point for corundum,



Flux Method¹

slowly dissolving and re-deposited on the seed crystal. As such, many of the methods used to detect previous methods of creating synthetics don't work. The material, however, usually contains small inclusions of the flux solution and can be detected in that manner. The flux method has not gained a sizable share of the market since it doesn't have worthwhile commercial applications and is extremely costly. For example, growth only occurs at the rate of approximately one millimeter per month. One of the largest applications is in the formation of unmodified crystal clusters used in jewelry. Flux grown crystals normally don't contain the striations common in Verneuil crystals as long as the temperature during production is properly controlled. Inclusions characteristic of the flux method are common though.²

Properties of Ruby ⁸
Composition: Al ₂ O ₃
Hardness: (Mohs) 9
Specific Gravity: 4.00
Refractive Index 1.762–1.770
Crystal System: Hexagonal (trigonal)
Colors: Various shades of red.
Ruby is colored by Chromium (III) ion which gives alexandrite and emerald their rich hues.
Pleochroism Strongly dichroic: purplish red/orange red
Phenomena: 6 or 12-rayed star
Handling: No special care needed
Melting point: 2047°C

Hydrothermal synthetics have also been produced. In this process, a strong solvent, usually superheated and under high pressure, sometimes in the range of 30,000 psi, is used to dissolve the original material. The chamber used is zoned with different temperatures from one end to the other. The original rough material is in the hotter end. As the dissolved material is circulated within the chamber and cooled, it reaches a point of super saturation at the cooler end of the chamber and re-deposits on a seed crystal. This is not a primary method of production for corundum but is used extensively for quartz. The method is fairly rapid, occurring in approximately 30 to 60 days, depending on the size of crystals desired. Very large crystals can be grown in this method. It is also one of the closest methods to natural crystal growth and one of the hardest to detect.³

One method not normally used for corundum is called a skull melt. Some materials are too hot for any known crucible material. This method uses microwaves to melt from the inside out, leaving part of the material on the outside to act as the crucible. This is reminiscent of a skull inclosing the brain. This method also creates a hollow for crystals to form in. It is normally reserved for those materials that other, more normal, methods don't work for. It's still an interesting method worth mentioning.

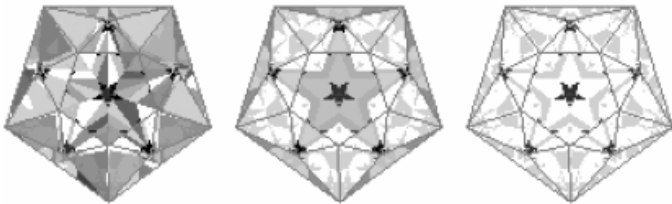
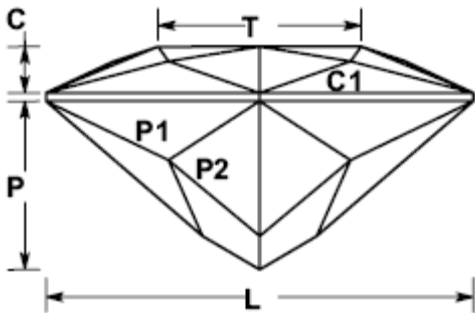
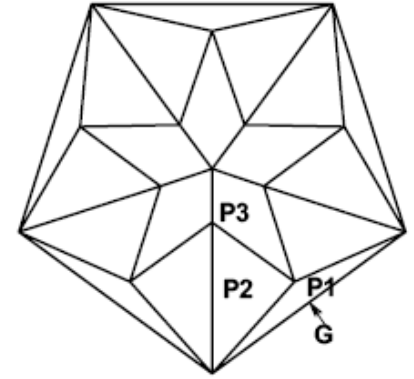
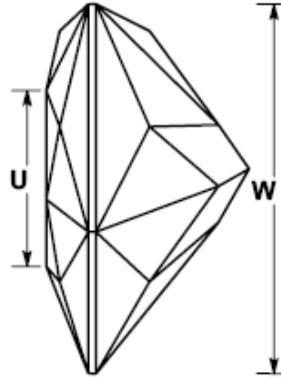
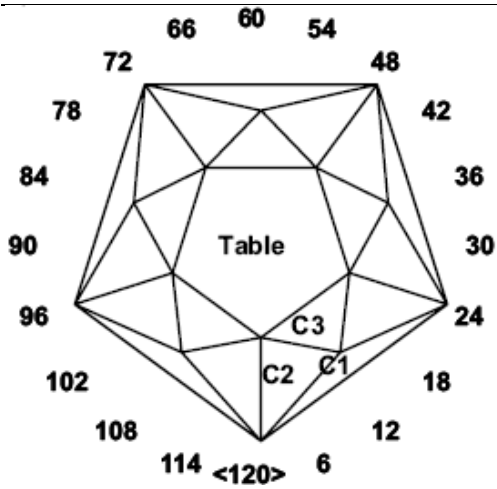
Many methods of synthesis exist. The above represent only the more common methods used for corundum. There are also many variations of the above methods. For example, other common synthetics include Ramuara, created by flux fusion, the noticeable difference is uncontrolled growth and spontaneous nucleation, no seed crystal is used, Kashan, Gilson, and Knischka, flux with a seed of natural crystal as

the nucleation and Lechleitner, flux with a seed of natural or synthetic crystal as the nucleation.¹

One of the key features of synthetic stones is that, because the material is relatively cheap and also available in larger sizes than are common of natural material, calibrated sizes are the rule rather than the exception and shapes that would waste a great deal of the natural material are also common. Natural stones are almost always cut for maximum yield, not calibrated sizes.

References:

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- ¹⁵ Synthetic Gemstone Developments in the Nineteen Seventies, Gems & Gemology, Winter 1979-1980) Year created and other information per individual citation if noted otherwise.



Seeing Stars

By Kevin Schwebel

Angles for R.I. = 1.730

41 + 5 girdles = 46 facets

5-fold, mirror-image symmetry

120 index

L/W = 1.051 T/W = 0.499 U/W = 0.475

P/W = 0.417 C/W = 0.115

Vol./W³ = 0.194

Average Brightness: COS = 82.1 % ISO = 92.3 %

Designed for dark garnet

PAVILION			
G	90.00°	012-036-060-084-108	Set stone size
P1	63.70°	012-036-060-084-108	level girdle
P2	40.60°	006-018-030-042-054-066-078-090-102-114	cut to center point
P3	36.00°	012-036-060-084-108	cut to meet P1, P2

CROWN			
C1	48.20°	012-036-060-084-108	establish girdle thickness, level
C2	22.00°	004-020-028-044-052-068-076-092-100-116	cut to center point, meet C1, G
C3	12.10°	012-036-060-084-108	Meet C1, C2
Table	00.00°	Table Meet C2, C3	

The RockCollector
Dan Imel

visit our website at
www.rochesterlapidary.org



First Class Mail

About this Publication

The RockCollector is the monthly newsletter of the *Rochester Lapidary Society*, Rochester, New York, associated with the Eastern Federation Mineralogical Societies, Inc. and the American Federation of Mineralogical Societies. It is not published the months of July and August. Permission to copy freely granted when proper credit given to both the publication and the author. Articles without by-line are written by the Editor.

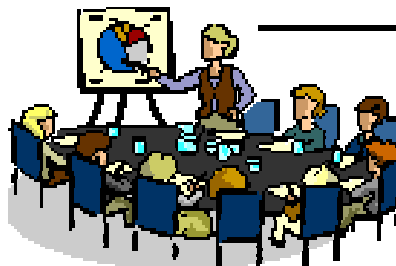
The Rochester Lapidary Society is a non-profit organization devoted to the collecting and study of minerals, gemstones, geology, paleontology and the lapidary arts as well as the love and deep appreciation of the great outdoors. An annual show is held each year, usually in October, to promote the educational philosophy of our organization. The summer months are devoted to club sponsored field trips.

Meetings are the first Thursday of each month at 7:30 PM in Forester Hall at the ROCHESTER SCHOOL FOR THE DEAF, St. Paul Ave., Rochester, NY. No meeting is held the months of July and August. Our monthly meetings are open to everyone, no admission is charged.

Membership dues: Individual - \$10 per year; Family - \$15 per year payable by December.

Workshops in the lapidary arts are held several times per month except for the months of July and August. Call the Club President to find out exact dates. An equipment usage fee of \$2 Adult/\$1 Children 10-16 years of age per session is charged for most workshops. Fees for materials may apply. Instructors are provided.

You may e-mail the editor at lapidry@aol.com



The May 5th meeting is at Forrester Hall at 7:30pm.

Board Meeting at 6:45pm.

This is our annual competition so bring all your creations from the last year and join in the fun!!!

The Penfield Quarry dig is scheduled for May 14, 2005, from 7 A.M. to 12 P.M. You are reminded to be there early and to bring your hard hat, safety goggles and steel toed shoes. Details inside.